

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the present amendments and following discussion, is respectfully requested.

Claims 1-3, 5, 6, 12, 13, 16, 18-20, 23-47, and 49 are pending. Claims 4, 7-11, 14, 15, and 17 are canceled by the present amendment. Claims 21-22, 48, and 50-51 were canceled previously. Claims 1, 6, 12, 13, 18, 19, 23-26, 28, 30, 47, and 49 are amended. Support for the amendments to Claims 1, 12, 47, and 49 can be found in the published application in numbered paragraph [0040], for example. Support for the amendments to Claims 6, 13, 18, 19, 23-26, 28, and 30, is self-evident. No new matter is added.

In the outstanding Office Action, the Restriction Requirement dated January 18, 2007, was made final. Claims 1-20, 23-37, 47, and 49 were rejected under 35 U.S.C. § 102(e) as anticipated by Vatus et al. (U.S. Patent Pub. 2004/0175893, herein "Vatus").

At the outset, Applicants note with appreciation the courtesy of a personal interview granted by Examiner Harrison to Applicants' representative on September 5, 2007. In combination with the Interview Summary provided by Examiner Harrison, the substance of the personal interview is summarized below in accordance with MPEP § 713.04.

Regarding the rejection of Claims 1-20, 23-37, 47, and 49 as anticipated by Vatus, that rejection is respectfully traversed by the present response.

Amended independent Claim 1 recites, in part:

exposing a process gas to the substrate; and
depositing a silicon-containing epitaxial film on the
substrate using the process gas,
wherein the process gas consists of HCD gas or HCD
gas and at least one gas from the group consisting of a dopant
gas, H₂, a germanium-containing gas, and an inert gas.

Accordingly, as discussed during the personal interview, Claim 1 is amended to recite that the process gas consists of HCD gas or HCD gas and at least one gas from a group consisting of a dopant gas, H₂, a germanium-containing gas, and an inert gas.

As further discussed in the personal interview, Vatus requires use of an epitaxial film forming process gas including a **silicon source gas and a chlorine source gas**. For example, Vatus states in numbered paragraphs [0027], [0028], [0029], [0035], [0040], [0044], [0045] and in dependent Claim 3 that the process includes introducing an epitaxial film forming process gas that includes a chlorine source gas. Vatus states:

At operation 708, an epitaxial silicon film forming process gas and a carrier gas are introduced into a reactor chamber. In one embodiment, the epitaxial silicon film forming process gas and the carrier gas have a flow ratio between 1:1 and 1:200. In another embodiment, the epitaxial silicon film forming process gas and the carrier gas have a flow ratio between 1:10 and 1:90. In one embodiment, the epitaxial film forming process gas includes at least a silicon source gas and a chlorine source gas (e.g., HCl), which enable the deposition of an epitaxial silicon film.¹

Although Vatus uses the terminology "in one embodiment," to describe the recipe in which the epitaxial silicon film forming process gas is comprised of a silicon source gas and chlorine source gas (HCL), Vatus does not teach or suggest any embodiment that the epitaxial silicon film forming process gas can exclude a chlorine source gas.

Additionally, Vatus derives a specific benefit from use of the chlorine gas inasmuch as the chlorine gas provides a smoother film surface.² Forming a smooth film surface is the stated goal of Vatus. For example, the title of Vatus is APPARATUSES AND METHODS FOR FORMING A SUBSTANTIALLY FACET-FREE EPITAXIAL FILM. Accordingly, Applicants respectfully submit that not only does Vatus fail to teach or suggest that the process gas consists of an HCD gas or HCD gas and at least one gas from a group consisting of a dopant gas, H₂, a germanium-containing gas and an inert gas, but Vatus **requires** a chlorine source gas in order to achieve its intended purpose. Thus, a person of ordinary skill in the art would not have been motivated, at the time the claimed invention was made, to

¹ Vatus numbered paragraph [0050].

² Vatus numbered paragraph [0040].

modify Vatus to exclude a chlorine source gas because Vatus requires use of the chlorine source gas to achieve its intended purpose. MPEP § 2143.01V states:

V. THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Modification of Vatus to exclude use of a chlorine source gas from combination with the silicon source gas would render Vatus unsatisfactory for its intended purpose.

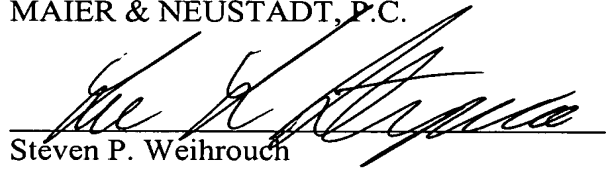
Accordingly, Applicants respectfully submit that amended independent Claim 1 and the claims depending therefrom patentably distinguish over Vatus for at least the reasons discussed above.

Amended independent Claims 47 and 49 recite substantially similar features to those discussed above regarding amended independent Claim 1 and patentably distinguish over Vatus for at least the same reasons.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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